Lakeview Biomass Study

Energy Education Workshop

University of Montana

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Collins Overview

- Family Ownership since 1855
- Portland, OR Headquarters
- 300,000 acres of timberland
- 2 softwood sawmills in CA & OR
- 3 hardwood mills in OR, PA & WV
- 2 panel plants in OR
- 3 retail yards in CA
- 12 MW Co-Gen plant in CA
- Oil & Gas Production in KS, CO & WY

Chester 12 MW Biomass Cogeneration

Chester Fuel Dump

Turbine

Lakeview Biomass Cogeneration Timeline

- 1936 - Collins purchase's timberland
- 1944 - Sawmill acquired
- 1950 - Lakeview Federal Sustained Yield Unit
- 1990 - Timber holdings at 80,000 acres
- 1990's - 4 competing mills shutdown as federal timber harvest implodes
- 1998 - Lakeview Stewardship Group forms, collaborative effort of government, industry, environmental and local interests

Lakeview Biomass Cogeneration Timeline

- 2004 - Realization that small log mill is necessary, no capital expenditure for biomass power
- 2005 - Discussion with DG Energy starts
- 2006 - Collins begins work on small log mill
- 2007 - DG sells to Marubeni
- 2007 - $7 million small log side opens
- 2008- 10 year stewardship contract signed
- 2009 - Marubeni sells to Iberdrola

Lakeview Biomass Cogeneration Timeline

- 2009 - Iberdrola relocates site and increases size to 25 MW
- 3rd Qtr, 2010 - Iberdrola to get final board approval and begin site work
- 2nd Qtr, 2012 - Plant is operational

Plant Overview

- 25MW plate
- $75 million cost of construction
- 18 direct jobs, 75 indirect jobs
- Power wheeled into CA on Pacific Corp transmission lines
- PPA with CA utility or muni
- 250,000 # Boiler, 160,000 bdt

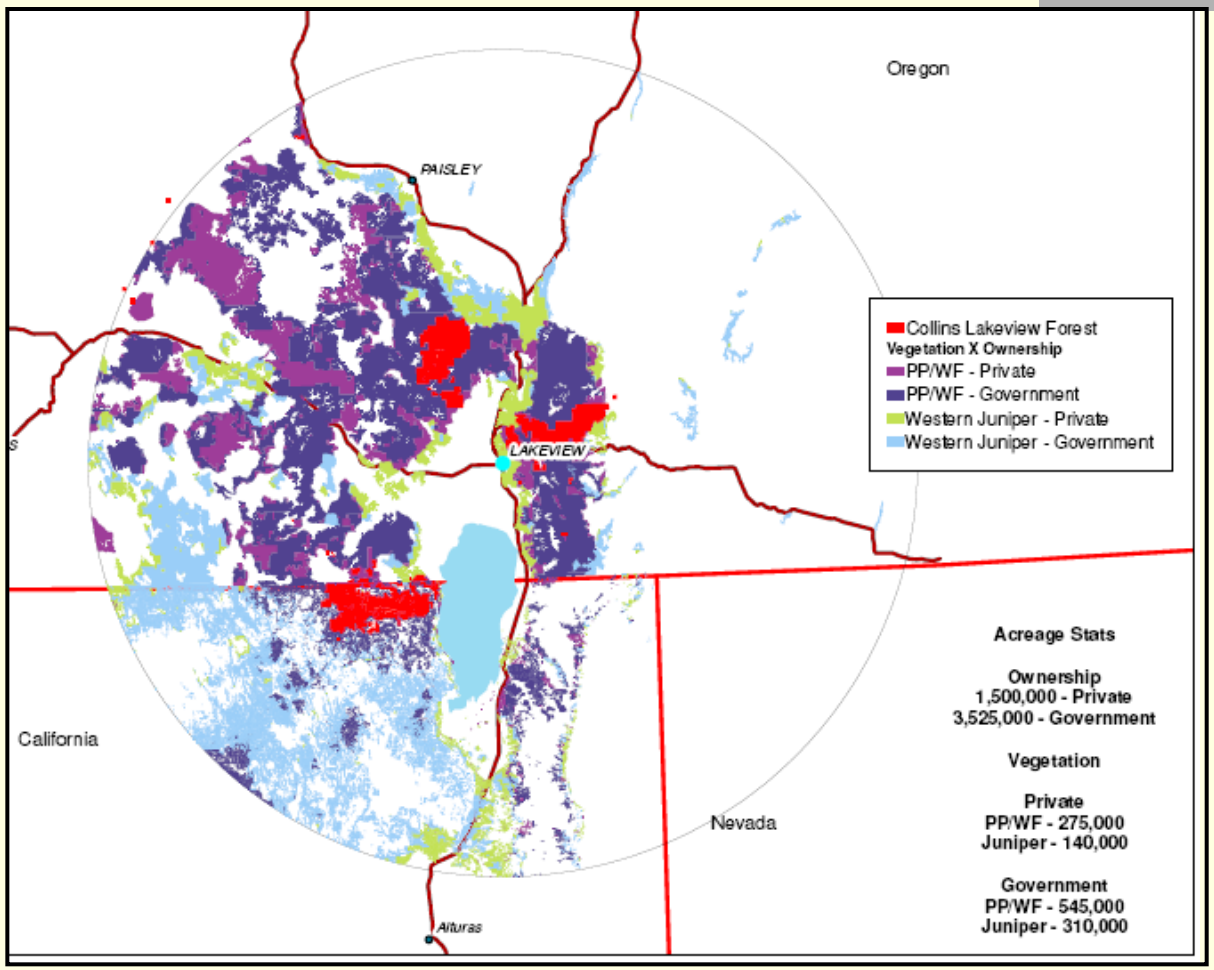
Key Factors in Plant Development

- Fuel
- Financing
- PPA
- Transmission
- Co-location with sawmill or plywood plant
- Permitting
- Grants, tax credits, financial incentives
- Community support

Fuel Availability

- 50 mile radius for primary fuel
- 75 mile radius for secondary supply
- Long term contracts preferable
- Low moisture content preferred
- Bark, hog fuel, woods thinning, slash, woody debris, and sawdust are preferred fuel
- Chips and planer shavings usually have higher value added potential
- Be cautious on urban wood diversion

50 Mile Radius



Slash Pile

Fletcher Fire, July, 2007

Fletcher Fire Aftermath

Lakeview Fuel Source

- 160,000 bdt annual requirement
- Collins is the long term fuel supplier
- 30,000 bdt Sawmill residual
- 30,000 bdt Collins forest fuel
- 49,000 bdt Other private forest fuel
- 24,000 bdt USFS Stewardship
- 6,000 bdt Red Zone
- 22,000 bdt Other USFS/BLM
- Collins has 55,000 bdt in reserve if needed

Capital Expenditure Economics

- $75 million capital cost ($3 million/MW)
- 30% ITC = $22.5 million grant
- Oregon BETC = $10 million
- ARRA (Stimulus) Funds =??
- Enterprise zone, reduced taxes, state economic development funds
- $40 million cost after grants and incentives
- Most investors looking for 12% to 14% return

Co-Generation Benefits

- Steam for dry kilns and area heat
- From forest thinning, sawlogs to mill, biomass to co-gen. Typical small log stewardship sale would be 3mbf sawlogs and 8 to 9 bdt biomass per acre
- Permitting is easier with established industrial facility vs. greenfield stand alone operation
- Transportation savings on by-products
- Potential shared maintenance staff

Existing CA Biomass Power Revenue Model

- $64.50 MW PG&E Contract Rate
- 15.00 MW Capacity Payment
- 5.00 MW CA Energy Commission
- 11.00 MW Federal PTC (expired)
- $84.50 MW Current Revenue
- Chance the PTC may be extended thru 2010
- Renewable Energy Credits (REC's) ???

New CA Biomass Revenue Models

- $102 MW to $130 MW (All In)- Depends on customer
- For out of state production you'll have some transmission costs, fees and line loss (GMM) adjustments
- REC potential for out of state generation

Community Benefits

- Improved forest health
- Reduced forest fire hazard
- Rural family wage jobs
- Distributed base load energy into the grid
- Diversion of material from landfill or open burning
- Added tax base
- Avoided methane emission

Summary

- Need ample fuel supply within 50 mile radius
- PPA with RPS/RES customer base
- Available transmission
- Co-located facility
- Can meet regulatory and environmental criteria
- Collaboration between community, enviros and industry
- Ability to finance the project
- Patience